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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

WAKS, J

ART UNIT

PAPER NUMBER

2834
DATE MAILED:

10/12/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/738,268

Applicant(s)

LIEU ET AL.

Examiner

Joseph Waks

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) 25-27 and 38-48 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 30-37 and 57 is/are allowed.
- 6) ☒ Claim(s) 1-24, 49-56 is/are rejected.
- 7) ☒ Claim(s) 28, 29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-24, 28-37, 49-57, drawn to molded plastic spindle motor structure, classified in class 310, subclass 43.
- II. Claims 25-27, drawn to a stator structure, classified in class 310, subclass 254.
- III. Claim 38-48, drawn to a method of manufacturing a spindle motor, classified in class 29, subclass 596.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention the composite metal/thermoplastic baseplate has separate utility such as baseplate for measurement instruments or generators; the baseplate for spindle motor may be made of metal or plastic. See MPEP § 806.05(d).

Inventions I and/or II and III are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case attaching the core of the motor stator may be encapsulated before being attached to the base.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Steven P. Shurtz on September 18 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-24, 28-37, 49-57. Affirmation of this election must be made by applicant in replying to this Office action. Claims 25-27 and 38-48 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Information Disclosure Statement

2. The Information Disclosure Statement filed on July 27, 2001 has been placed in the application but references will not be considered by the examiner. Applicant(s) inundated the Examiner with a large volume of prior art that is not material and may obscure a single reference that is material and thus may be effective as improper as withholding a material reference. *Ex Parte Morning Surf Corp.*, 230 USPQ 446, and *Penn Yan Boats, Inc. v. Sea Lark Boats, Inc.*, 359 F. Supp. 948, 175 USPQ 260 (S.D. Fla. 1972).

“Significantly, an applicant’s duty of disclosure of material and information is not satisfied by presenting a patent examiner with “a mountain of largely irrelevant material from which he is *presumed* to have been able, with his expertise and with adequate time, to have found the critical [material]. It ignores the real world conditions under which examiners work.” *Rohm & Haas Co. v. Crystal Chemical Co.* 722 F.2d 1556, 1573 [220 USPQ 289], (Fed.Cir., 1983).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 21, lines 2-3, “ 2×10^{-5} in/in/°F” should be “ -2×10^{-5} in/in °F--.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1, 2, 4, 5, 7, 10, 19, 52, and 54-56 are rejected under 35 U.S.C. 102(b) as being anticipated by **Katakura et al. (US 5,241,229)**.

Katakura et al. disclose in Figures 1 and 2 invention as claimed: a magnetic drive with a spindle motor having a baseplate 11 or 31, a shaft 14 or 34 supported by the baseplate, a stator assembly spaced from the baseplate and including a laminated core 18 or 38 having poles surrounded by windings 19 or 39 and rigidly attached to the baseplate with support member 12 or 32, an injection molded thermoplastic material 22 or 42 secured to the baseplate in the space between the stator and the baseplate, encapsulating the windings and being in intimate contact with the baseplate, and a hub 35 supported by the shaft and having a magnet 37.

Claims 1-5, 7, 10, 13-19, 49-56 are rejected under 35 U.S.C. 102(b) as being anticipated by **Dunfield et al.** (US 5,694,268).

Dunfield et al. disclose in Figures 1, 2, 6, 9, 12, 15, and 2 invention as claimed: a magnetic drive with a spindle motor having a baseplate 12, 266, or 418, a shaft 34 or 412, a stator assembly including a laminated core 432 having poles surrounded by windings and rigidly attached to the baseplate with support member 12 or 32, an injection molded thermoplastic material 428 encapsulating the windings and in intimate contact with the baseplate, and a hub 414 supported by the shaft and having a magnet 70 or 422, the magnet 70 located inside the stator assembly.

Re claims 49-51, **Dunfield et al.** disclose in column 7, lines 65-67 and column 8, lines 1-5, and in the incorporated US Patent No. 5,579,188 to Dunfield et al. the spindle motor with the coreless stator assembly.

Claims 1, 9, 10, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by **Mosciatti et al.** (US 5,241,229).

Mosciatti et al. disclose in Figures 1 and 2 invention as claimed: a motor having a baseplate 28, a stator assembly including a laminated core 37 having poles surrounded by windings 36 and rigidly attached to the baseplate, an injection molded thermoplastic material 44 including ceramic particles and encapsulating the windings. The shaft and the hub supported by the shaft and having a magnet are inherent to brushless motor structure.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 6 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Katakura et al. (US 5,241,229)** or **Dunfield et al. (US 5,694,268)**.

Both, **Katakura et al.** and **Dunfield et al.** disclose motor structure with thermoplastic used for stator vibration dampening and electrical insulation. However, they fail to disclose the thermoplastic material having a vibratory dampening ratio of at least 0.05 in the range of 0-500 HZ and a modulus of elasticity of at least 1,000,000 psi at 25° C and dielectric strength of at least 250 volts/mil.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to select the vibration dampening thermoplastic material having specific dampening characteristics and elasticity for the specific operating conditions or the dielectric strength for the specific power supply, since it has been held to be within the general skill of a

worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

7. **Claim 22** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Mosciatti et al.** (US 5,241,229).

Mosciatti et al. disclose motor structure with thermoplastic used as a heat sink. However, **Mosciatti et al.** fail to disclose the thermoplastic material having a thermal conductivity of at least 0.7 watts/meter °K at 23°C.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to select the heat conductive thermoplastic material having specific conductivity characteristics for the specific operating conditions, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Allowable Subject Matter

8. **Claim 21** would be allowable if rewritten to overcome the rejection(s) under 35

U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The feature of the thermoplastic material having a linear thermal expansion of less than 2×10^{-5} in/in°F throughout the range of 0-250°F, in combination with the other limitations present, are neither disclosed nor taught by the prior art of record.

9. **Claims 28 and 29** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The feature of the baseplate comprising a stiff thermoplastic material having modulus of elasticity at least 1,000,000 psi and a metal plate substantially encapsulated in the thermoplastic material, in combination with the other limitations present, are neither disclosed nor taught by the prior art of record.

10. **Claims 30-37 and 57** are allowed.

The feature of the baseplate comprising a stiff thermoplastic material having modulus of elasticity at least 1,000,000 psi and a metal plate substantially encapsulated in the thermoplastic material, in combination with the other limitations present, are neither disclosed nor taught by the prior art of record.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Waks whose telephone number is (703) 308-1676. The examiner can normally be reached on Monday through Thursday 8 am to 5 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor R Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-1341 for regular communications and (703) 305-1341 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782



JOSEPH WAKS
PRIMARY PATENT EXAMINER
TC-2800

JW
September 24, 2001